

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A ~~[[M]]~~ method for carrying out highly exothermic oxidative reactions in pseudo-isothermal conditions, between reactants fed in continuous flow to a predetermined catalytic bed, ~~characterized in that~~ the method comprising:

feeding at least a part of said continuous flow of reactants ~~is fed~~ within a catalytic mass of said catalytic bed at different points of said catalytic bed mass corresponding to different successive stages of the reaction which takes place in said catalytic bed, at respective different predetermined temperatures and flow-rates.

2. (Currently amended) The ~~[[M]]~~ method according to claim 1, ~~for carrying out highly exothermic oxidative reactions in pseudo-isothermal conditions, between reactants fed in a continuous flow to a predetermined catalytic bed, in which a plurality of heat exchangers is immersed and supported, wherein:~~ further comprising:

positioning a plurality of distribution-suppliers ~~is positioned~~ in said catalytic bed, at different points thereof strictly corresponding to different predetermined stages of said oxidative reaction,

dividing said continuous flow of reactants ~~is divided~~ into a first part or main flow and a second part or control flow with a predetermined temperature and flow-rate,

preheating said first part or main flow ~~is preheated~~ through heat exchange with said catalytic bed, feeding said first part or main flow ~~[[it]]~~ through ~~said~~ a plurality of heat exchangers immersed and supported in said catalytic bed,

recovering said main flow of preheated reactants ~~is recovered~~ and ~~it is fed~~ feeding said main flow continuously to said catalytic bed, and

feeding said second part or control flow ~~is fed~~ to said plurality of distribution-suppliers to inject respective fresh flows of reactants at a predetermined temperature and flow-rate into the catalytic bed.

3. (Currently amended) An [[A]]apparatus for carrying out a highly exothermic oxidative reaction in pseudo-isothermal conditions according to the method of claim 1, comprising a plurality of heat exchangers, wherein with each of said exchangers is associated at least one distribution-supplier suitable for being fed continuously by a flow [[a]] of reactants at a predetermined temperature and flow-rate.

4. (Currently amended) The [[A]]apparatus according to claim 3, wherein said at least one distribution-supplier is supported ~~fixed~~ by said respective heat exchanger.

5. (Currently amended) The [[A]]apparatus according to claim 4, wherein said heat exchanger is plate-shaped and substantially rectangular, inside which a first chamber, intended to be crossed by a respective flow of reactants to be preheated, and a second chamber, separated fluid-tight from said first chamber and in fluid communication with said at least one distribution-supplier are defined.

6. (Currently amended) The [[A]]apparatus according to claim 5, wherein said distribution-supplier comprises a carter fixed to a wall of a respective plate-shaped heat exchanger, with which it substantially defines a duct in fluid communication, on one side, with said second chamber of the exchanger and, on the other side, with the outside of the exchanger itself, through a plurality of holes formed in said carter.

7. (Currently amended) A [[R]]reactor for carrying out highly exothermic catalyzed oxidative reactions in pseudo-isothermal conditions, comprising a shell in which is defined a reaction zone at least partially occupied by a catalytic bed, wherein [[it]] the reactor comprises an apparatus according to claim 3, immersed in said catalytic bed.